

DOCUMENT RESUME

ED 204 730

CS 006 169

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 TITLE Application of Discourse Analysis: IRI's and ESL Learning.
 PUB DATE Dec 80
 NOTE 11p.: Paper presented at the Annual Meeting of the National Reading Conference (30th, San Diego, CA, December 3-6, 1980).
 EDRS PRICE MF01/PC01 Plus Postage.
 DESCRIPTORS *Discourse Analysis; Elementary Education; *English (Second Language); *Evaluation Methods; *Informal Reading Inventories; Measurement Techniques; *Reading Comprehension; *Reading Research; Recall (Psychology); Second Language Learning
 IDENTIFIERS *Schema Theory

ABSTRACT

Two studies examined certain aspects of discourse analysis to determine their value in classroom use. The first study explored the relationships among information recalled as assessed by informal reading inventory comprehension questions, unaided retelling, and schema based retelling. Subjects were 15 fourth, fifth, and sixth grade students who read two passages each--one at the fourth grade level of readability and the other at their individual grade level. The results showed that using descriptive schema to analyze unprompted retelling bore a reasonable relationship to standard methods of evaluating comprehension. The second study examined the difficulties of first and second language learners in the comprehension of six types of propositions as defined by P. D. Pearson and D. D. Johnson. The study involved 160 seventh grade students, who were divided into groups according to their reading level and by whether they spoke English at home. Results suggested that continued reading assistance should be given to English-as-a-second-language students in order to bring them to the levels of proficiency of their English-speaking peers. (FL)

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Application of Discourse Analysis: IRI's and ESL Learning

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Paper presented at the 30th Annual Meeting of the National
Reading Conference, San Diego, December 1980.

CS886169

Applications of discourse analysis: IRI's and ESL learning

The application of research to classroom practise is a problematic venture at best. Recent writings (Samuels and Pearson, 1980) have warned us of over hasty application and others have chided us for inadequate research (Tuinman, 1980) but no clear alternative has been presented. Consequently it is instructive to refer back to Hilgard's (1964, p.405) "steps on the road from pure-science research to established educational practices." Hilgard (1964, p.406) outlines six steps which show the progression from pure to applied settings:

1. Not directly relevant (to practical problems),
2. Relevant subjects and/or topics,
3. School-relevant subjects or topics,
4. Laboratory, classroom, and special teacher,
5. Tryout in "normal" classroom,
6. Advocacy and adoption.

From the above scheme we can readily see that much research falls under #2 or #3 and that they are at least two steps removed from classroom application.

This paper reports two exploratory studies in which selected aspects of discourse analysis are examined in order to move them one step closer to classroom use. The first study sought to explore the relationships among the recalled information as assessed by SRI comprehension question, unaided retelling, schema-based retelling, and mean length of t-unit of retelling.

The second study explores the difficulties of first- and second-

language learning (ESL) in the comprehension of propositions as suggested by Pearson and Johnson (1978). The data was collected and analyzed by graduate students Noreen Rossnagel and Terri Ann Pollock.

STUDY #1

The problem of writing questions for informal reading inventories has not been satisfactorily settled (Guthrie, 1977) either practically or experimentally. Yet often the type or level of question is thought to affect its difficulty or to determine the level of thinking it elicits (Davidson, 1970; Tatham, 1978). If these are real concerns then what is required is a systematic method of generating questions related to a specific text. The present study follows the suggestion by McConaughy (1980) that basing questions on simple description story schema might be a viable alternative.

The problems selected for study were: (1) What is the relationship among four measures of comprehension: prompted literal questions (PQ), non-prompted retelling (NP), schema-related retelling (SR), and t-units contained in non-prompted retelling (TU)?; (2) Is there a significant difference among the four measures?; (3) Are there grade level differences?; (4) Are there qualitative differences in the measures?

Method and Materials

Two fourth-grade stories (A,B), one fifth-grade story (C) and one sixth-grade story (D) were selected from the Standard Reading Inventory (1966) to serve as stimulus passages.

Each subject silently read passage A; fourth-graders in addition read passage B; fifth graders read C; and sixth graders read passage

D. The order of presentation was balanced to eliminate order effects. After each reading they were asked to retell the story (NP) and were asked the 10 SRI questions (PQ). The results were transcribed and analyzed for their relationship to a story schema (after McConaughy, 1980), which resulted in SR scores. The number of t-units in the retelling were counted to produce TU scores.

Sample

Five average students in each of grades 4, 5 and 6 were selected from one school in a Winnipeg school division. Subjects were identified as average by being within ± 1 month of the grade placement on the Canadian Test of Basic Skills. Eight male and 7 female students made up the sample.

Results

When pooled over grades on the common passage A, the following correlations resulted.

	PQ	NP	SR	TU
PQ	-			
NP	0.86*	-		
SR	0.65*	0.86*	-	
TU	0.28	0.38	0.41	-

* $p < .01$

Figure 1 - Intercorrelations of four comprehension measures: Non-prompted retelling, prompted questions, schema related retelling, t-units (* $p < .01$).

There is a significant relationship among the variables PQ, NP, and SR. The t-units were not significantly related to any of the other measures.

A two-way ANOVA of the four measures and three grade levels

indicated a significant grade effect ($F=8.89$, $p<.05$) as well as a significant treatment effect ($F=128.16$, $p<.01$). The interaction effects were not significant. Post hoc analysis indicated that the differences between grade four and five were not significant but that differences between grades four and six and five and six were significantly different. Post hoc analysis of the treatments indicated no difference between PQ and SR but significant differences among the others.

A qualitative analysis of the twenty story elements indicated strong trends across grades for initiating action, final attempts, and final resolutions. Internal responses and goal statements were most poorly completed.

Discussion

Using descriptive schema such as proposed by McConaughy (1980) to analyze unprompted retelling appear to bear a reasonable relationship to standard methods of evaluating comprehension since there were significant interrelationships among the three measures PQ, NP, and SR.

By adding the results from the ANOVA one could conclude that schema-based analysis is most like the results obtained from literal level questions. This is as one would expect since McConaughy's (1980) simple description schema draws primarily on temporal sequence of action and explicitly stated facts.

STUDY #2

This study addresses the problem of why so many non-native

speakers of English fail to derive from print the meaning that is necessary for fluent reading even when their speech and oral comprehension are reasonable (Wolk, 1972). Downing's (1973) cognitive clarity theory, for example, predicts that learning to read and write in two languages should be easier. However, Cziko (1978) found that a relatively high level of competence is needed to use discourse constraints in reading.

The purpose of the second study was twofold: (1) will students whose home language is not English have more difficulty than English speakers with questions involving six types of propositions and; (2) will students whose home language is not English and whose reading level is classified as high, middle, or low, achieve differently than their English counterpart on specific proposition level tasks?

Method and Materials

A 48 item test was constructed to represent six of the propositional levels proposed by Pearson and Johnson (1978): paraphrase, association, main idea, figurative language, ambiguous statements, and sequence. Difficulties with objective scoring and discrimination ability of some items necessitated the omission of the proposition levels labelled comparison, causal relations, and anaphoric relations. The Spearman Brown prophecy formula resulted in a reliability of 0.939.

Procedure

The test was administered to groups of 25-30 subjects with two teachers present. No rigid limit was set and most subjects completed the task in approximately 40 minutes. Students were encouraged to ask questions about any words they could not read.

A two-way ANOVA was performed for the total test scores as well as for the six specific propositions.

Subjects

A total of 160 subjects completed the testing. Previous analysis indicated that English only was spoken in 41% of the homes, no English was spoken in 35% of the homes, and the remaining 24% spoke English and one or more other languages intermittently.

Each subject completed the reading comprehension subtest of the Stanford Diagnostic Reading Test (Brown) and was rated as a high (G.E.=7.0+), middle (G.E.=5.0 to 6.9), and low (G.E.=4.9-) reader on that basis.

Results

The ANOVA for total test scores resulted in significant differences for achievement levels ($F_{2,151} = 98.41, p < .01$) and for language level ($F_{2,151} = 31.769, p < .05$). These findings indicated that there were statistical differences among the three language groups (English only; Non-English; Mixed) and among students assigned to the various ability levels (High, Middle, Low). Comparing the means, the Non-English group consistently had the lowest means, the mixed-language group came next, and the all English group had the highest means.

		Reading Level		
		High	Middle	Low
Language	English	41.83(3.445)	34.75(4.196)	28.82(7.012)
	Mixed	38.75(4.264)	34.61(7.040)	25.46(4.772)
	Non-Eng.	36.09(5.838)	28.50(6.004)	18.94(5.983)

Figure 2 - Group means & standard deviations for analysis by reading level and language spoken at home.

A second analysis considered the variations in achievement on each of six types of propositions (paraphrase, association, main idea, figurative language, ambiguous statement, and sequence) when language background was considered. The results of such comparison was highly significant ($F_{1,111}=16.133$, $F_{1,111}=36.545$, $F_{1,111}=8.066$, $F_{1,111}=39.774$, $F_{1,111}=8.935$, $F_{1,111}=16.399$, $p<.01$). Since no interaction effects were significant it was concluded that the proposition types did not affect subjects differently at high, middle, and low reading achievement levels.

Discussion

Because the recall of connected discourse is related to the reader's knowledge structure and because cultural background can influence the make-up of this structure, it follows that Non-English students could have more difficulties with processing the various propositions selected for this study. The data certainly support this contention.

The results of this study suggest that continued reading assistance should be given to ESL students in order to bring them near the levels of their English-speaking counterparts.

GENERAL DISCUSSION

The two exploratory studies reported here have made a tentative venture into the land of the schemers.

First, they have built on the already existing literature but have extended somewhat the utility of the theory. In the initial study, the feasibility of using story schema to analyze IRI retelling

protocols was examined. The second study examined English and ESL subjects' ability to respond to six types of propositions.

Second, the results indicate promising avenues of further research. The possibility of finding a more structured and systematic procedure for generating IRI questions is certainly an attractive option and the identification of proposition level differences in first and second language speakers (although with similar reading ability) appears promising for ESL learning.

Third, these studies again point out the importance of using terms precisely and the dangers of borrowing terms from other fields. This applies especially to terms such as schema, schema theory, proposition, constructive comprehension, macrostructure, discourse analysis, and others currently in vogue.

Finally, as pointed out initially, these findings should be regarded as a slight progression in Hilgard's model--from level #2 to level #3. Nothing reported here suggests to teachers "what ought to be done on Monday", but it has brought us a little closer.

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